

REMARKS

This communication is submitted in response to the Office Action dated October 10, 2006.

Claims 1-18 and 26-32 are pending in the subject patent application, with claims 1, 4, 12, 15, 27 and 31 having been amended herewith and claims 19-25 having been herewith cancelled. Claims 2, 3, 5-11, 13, 14, 16-18, 26, 28-30 and 32 have not been amended relative to their immediate prior version. Claims 5, 6, 8, 16-26, 30 and 32 stand withdrawn from consideration by the Examiner.

Paragraph (0001) of the specification has been amended to update the status of the related patent applications incorporated by reference. The amendments to the specification do not introduce any new matter.

Support for the amended claims is found throughout the specification as originally filed, and the amended claims do not introduce any new matter.

Reconsideration of the subject patent application is respectfully requested in view of the foregoing amendments and the following remarks.

The objection to the disclosure is addressed and overcome by the present amendment in that paragraph (0001) has been amended to update the status of the cross-referenced patent applications as required by the Examiner in the Office Action.

The rejection of dependent claim 7 under 35 USC §112, 2nd paragraph, is believed to be improper because the claim particularly points out features that are clearly shown in Figs. 1 and 2, it being noted that the planar portions of the side flanges 918, 920 and the outside corners 923, 925 thereof are the subject of dependent claim 9.

The rejection of claim 31 under 35 USC §112, 2nd paragraph, is believed to be moot in view of the amendments to claim 31.

The rejection of claims 1-4, 7, 9-11 and 14 as being anticipated by Kamm and the rejection of claims 12, 13, 15, 27-29 and 31 as being unpatentable over Kamm are respectfully traversed for the following reasons.

The amendments to independent claims 1 and 27 have more clearly delineated the claimed invention as a “structural steel building element” comprising a “structural steel profile” which serves as a “load-bearing support column or beam integral to a building structure”. Structural steel building elements comprising structural steel profiles as described in the specification of the subject application have a distinct definition in the fields of building construction and structural engineering where various standard structural steel profiles are used as load-bearing support columns and/or beams integral to building structures. As such, structural steel building elements are required to bear substantial loads in tension, compression and torsion including the weight and moment arm forces from the components of the building structure itself as well as extraneous forces such as wind and seismic forces. Structural steel building elements must therefore possess considerable strength and rigidity to serve as columns and/or beams integral to building structures, which leads to standard structural steel building elements being very heavy and costly. The claimed invention provides a structural steel building element having a unique profile providing increased strength or load-bearing capacity in tension, compression and torsion while allowing the weight and cost of the building element to be minimized.

The Kamm patent, the only reference relied on by the Examiner, is totally

unrelated to structural steel building elements as defined in applicant's specification and as known in the fields of building construction and structural engineering. The Kamm patent pertains to a wall protector 10 comprising a wall bumper 12 and a mounting bracket assembly 14 for mounting the bumper externally on a standard finished interior wall panel W, presumably conventional sheet rock. The purpose of the bumper 12 is entirely superficial, i.e. to protect the exterior surface of the finished wall W by absorbing impacts from objects, such as wheeled carts, stretchers and hand trucks, that might otherwise contact and possibly mar the exterior surface of the wall. Notably, the bumper 12 is attached to a wall bracket 82 of the mounting bracket assembly 14 which, in turn, is secured to the wall W via standard wall anchors 100, 106 inserted in the wall. Rather than providing structural support as a load-bearing column or beam integral to a building structure in the manner of a structural steel building element, the bumper 12 must itself be supported by the wall panel W. In order for both the bumper 12 and its mounting bracket assembly 14 to be supported on the conventional wall W via the conventional wall anchors 100, 106, the bumper 12 cannot be like structural steel building elements as defined in the specification of the subject patent application and as known in the fields of building construction and structural engineering since such structural steel building elements are entirely unsuitable for being mounted on a conventional finished wall in the manner disclosed by Kamm for the bumper 12. Conversely, the bumper 12 as described by Kamm cannot serve as a load-bearing support column or beam integral to a building structure in the manner of a structural steel building element. Kamm explicitly discloses that the bumper 12 resiliently flexes to absorb impacts (column 3, lines 34-36) from objects such as carts, stretchers and

hand trucks, which is antithetical to structural steel building elements that must remain rigid when sustaining vastly greater forces compared to the relatively gentle impacts contemplated by Kamm. It should also be noted that Kamm does not disclose any individual utility for the bumper 12 apart from the bracket assembly 14 that mounts the bumper 12 on the wall W, much less any capability to serve as a load-bearing support column or beam integral to a building structure.

In addition to Kamm failing to teach or suggest a structural steel building element comprising a structural steel profile, Kamm does not disclose a profile for bumper 12 having the specific features recited in the claims. Independent claim 1 recites a “structural steel building element comprising a structural steel profile ..., said profile having ... a web, ... said web having a constriction imparting increased load-bearing capacity to said profile in tension, compression and torsion, ... said building element having an overall width between said plane of said planar segments and said plane of said tips, said constriction having a width between said plane of said planar segments and said plane of said apex of substantially one-third said overall width, said profile having a load-bearing capacity to serve as a load-bearing column or beam integral to a building structure.” As pointed out above, Kamm does not even relate to, much less disclose, a structural steel building element comprising a structural steel profile as such terms are defined in applicant’s specification and are known by definition in the fields of building construction and structural engineering. As further pointed out above, the bumper 12 disclosed by Kamm does not and cannot have a load-bearing capacity to serve as a load-bearing support column or beam integral to a building structure in the manner of a structural steel building element and profile. In order for the bumper 12 of

Kamm to have a load-bearing capacity to serve as a load-bearing support column or beam integral to a building structure, the bumper 12 would have to be modified to an extent rendering it unsuitable for its intended purpose, i.e. attachment to the wall bracket 82 that is mounted on the wall W via conventional wall anchors 100,106. In addition, Kamm's explicit teaching that the bumper 12 resiliently flexes to absorb the shocks from impacts teaches away from the feature recited in claim 1 of the profile having a load-bearing capacity to serve as a load-bearing support column or beam integral to a building structure.

There are also no teachings by Kamm of a "constriction imparting increased load-bearing capacity to said profile" as recited in independent claim 1. In Kamm, the only purpose for the presence of the V-shaped channel 32 in the bumper 12 is to accommodate the light strip 40. In Kamm, it is a channel 32 that is important, as opposed to the shape of a constriction, formed in the front wall 20 of the bumper 12. There is absolutely no recognition whatsoever by Kamm of the upper wall 34 and the lower wall 36 that form the channel 32 imparting increased load-bearing capacity to the bumper 12. Independent claim 1 further requires the constriction to have a width of substantially one-third the overall width of the building element, and Kamm does not disclose the angled formation of walls 34 and 36 that define channel 32 as having a width of substantially one-third the overall width of the bumper 12. The Examiner relies on Fig. 3 of Kamm as disclosing the channel 32 to have a width which is about one-third the overall width of the bumper 12. It is respectfully submitted that the Examiner has misinterpreted Kamm in this regard because Fig. 2 clearly shows the channel 32 to have a width considerably less than substantially one-third the overall width of the

bumper 12, as such widths are defined in claim 1. The Examiner's reliance on Fig. 3 of Kamm for the teaching of the channel 32 having a width about one-third the overall width of the bumper 12 is further submitted to be improper because Kamm does not disclose that the drawings are to scale and is silent as to the dimensions of the channel 32. When a reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurements of the drawings features are of little value. Hockerson-Halberstadt, Inc. v. Avia Group Int'l, 222 F. 3rd 951, 55 USPQ 2d 1487 (Fed. Cir. 2000); MPEP §2125.

A rejection based on anticipation requires that all the elements of the claimed invention be described in a single reference. In re Spada, 15 USPQ 2d 1655 (Fed. Cir. 1990). Moreover, the reference must describe the claimed invention sufficiently to have placed a person of ordinary skill in the field of the invention in possession of it. Id. In the present case, Kamm does not disclose all of the elements of the invention claimed in independent claim 1 and actually provides explicit teachings that would lead one away from the claimed invention. Notably, Kamm does not describe the claimed invention sufficiently to have placed a person of ordinary skill in the field of the invention in possession of it. Kamm does not bear any relevance to a structural steel building element and structural steel profile having a load-bearing capacity to serve as a load-bearing support column or beam integral to a building structure, does not recognize the significance of a constriction imparting increased load-bearing capacity to a structural steel profile, and does not fairly disclose a constriction having a width of substantially one-third the overall width of the profile. Accordingly, independent claim 1 cannot be anticipated by Kamm and is submitted to be clearly patentable over Kamm along with

its dependent claims 2-4, 7, 9-11 and 14 which also stand rejected as being anticipated by Kamm.

With respect to dependent claim 4 in particular, the Examiner relies on Fig. 3 of Kamm as disclosing the bumper 12 to have an overall width about one-half its overall height. The Examiner's reliance on Fig. 3 as disclosing the bumper 12 to have an overall width about one-half its overall height is improper because Kamm actually provides explicit teachings that the bumper 12 has a vertical height of 5½ inches and a width of 1½ inches, such that the width of the bumper 12 is not substantially one-half its height as is recited for the building element in claim 4.

Dependent claim 14 requires the constriction to have a height no greater than one-fourth the overall height of the building element. The Examiner relies on Fig. 3 of Kamm as disclosing this feature, but the Examiner's reliance on Fig. 3 of Kamm is submitted to be improper. As pointed out above, Fig. 3 of Kamm cannot properly be relied on for any particular dimensional relationship because Kamm has not disclosed that the drawing is to scale and has not provided any explicit teachings concerning the height of the channel 32.

Claims 12, 13 and 15 depend from independent claim 1 and stand rejected as being unpatentable over Kamm. Claim 12 requires that the arms of the constriction define an included angle of substantially 70° whereas Kamm explicitly discloses that the upper wall 34 and the lower wall 36 of the channel 32 meet at approximately a right angle. The Examiner asserts in the Office Action that it would have been an obvious expedient to one of ordinary skill in the art to modify the bumper of Kamm by making the included angle between the walls of the channel 32 to be about 70° in order to form

an optimum angle of the strengthening rib side walls along the webbing of the channel member and also because changes in size/proportion do not constitute a patentable difference. However, no suggestion or motivation whatsoever is provided by Kamm to support modifying the included angle defined by the walls 34 and 36 of the channel 32 to form an optimum angle of the strengthening rib side walls. As pointed out above, the only purpose disclosed by Kamm for the channel 32 and, therefore, the walls 34 and 36, is to accommodate the light strip 40. Kamm fails entirely to recognize or contemplate any significance of the walls 34 and 36 in strengthening the web of the channel member, and the Examiner's arguments can only be based on impermissible hindsight made possible from the teachings of the present invention. Indeed, as pointed out above, Kamm's intention for the walls of the bumper 12 to resiliently flex clearly teaches away from the concept of the walls 34 and 36 of the channel 32 serving as a strengthening rib. Moreover, the problem addressed by Kamm of protecting a finished wall from superficial damage is not reasonably pertinent to the problems associated with prior structural steel building elements addressed by applicant. A person of ordinary skill at the time of the subject invention would not reasonably have consulted Kamm in seeking a solution to the problems associated with structural steel building elements. In asserting that changes in size/proportion do not constitute a patentable difference, the Examiner refers to the three cases mentioned in §2144.04(IV) of the MPEP, none of which are factually similar to the present situation. The claimed invention does not involve a mere "scaling up" of the Kamm bumper but, rather, requires a specific size and configuration of a constriction imparting increased load-bearing capacity to the structural steel profile in tension, compression and torsion.

In addition, the fact that the profile disclosed by Kamm would not perform like the claimed profile supports the presence of patentable differences between the claimed invention and the bumper 12 of Kamm. It is submitted, therefore, that dependent claim 12 is clearly patentable over Kamm for the additional limitation recited therein as well as being allowable with claim 1. Claim 13 depends from claim 12 and is submitted to be allowable therewith.

Dependent claim 15 depends from claim 14 and recites the constriction as having a height of substantially 4.2 cm. There is no recognition whatsoever by Kamm of any significance to the height of the channel 32 other than the channel 32 being of sufficient size to accommodate the light strip 40. Kamm fails to provide any motivation whatsoever for the channel 32 to have a height of substantially 4.2 cm, especially since Kamm does not teach or suggest that the channel 32 or its walls 34 and 36 impart increased load-bearing capacity to bumper 12. On the contrary, as noted above, it is actually Kamm's explicit teaching that the walls of the bumper 12 resiliently deform from impact. Claim 15 is thusly submitted to be clearly patentable over Kamm for the additional limitation recited therein as well as being allowable with claim 14 and its base claim, independent claim 1.

Dependent claims 5, 6, 8 and 16-19 are dependent on independent claim 1 and stand withdrawn from consideration by the Examiner. In view of independent claim 1 being allowable, claims 5, 6, 8 and 16-19 should be allowable therewith.

Independent claim 27 recites a "structural steel building element comprising a structural steel profile ..., said profile having ... a web, ... said web having a constriction imparting increased load-bearing capacity to said profile in tension, compression and

torsion, said constriction being bisected by a constriction axis ..., said constriction including a pair of arms ... with each of said arms defining an angle of substantially 35° with said constriction axis, said profile having a load-bearing capacity to serve as a load-bearing support column or beam integral to a building structure.” As previously pointed out above, Kamm does not even relate to a structural steel building element or profile having a load-bearing capacity to serve as a load-bearing support column or beam integral to a building structure. The bumper 12 to which Kamm pertains is unrelated to structural steel building elements and profiles as such terms are defined in applicant’s specification and have come to be known in the fields of building construction and structural engineering. In fact, the bumper 12 of Kamm cannot be a structural steel building element or profile having a load-bearing capacity to serve as a load-bearing support column or beam integral to a building structure and still retain the characteristics necessary for it to operate as Kamm explicitly intended. The channel 32 defined in the bumper 12 of Kamm by the upper and lower walls 34 and 36 is not a constriction imparting increased load-bearing capacity to the bumper in tension, compression and torsion as is required for the constriction recited in claim 27. On the contrary, it is explicitly disclosed by Kamm that the walls of the bumper 12 resiliently deform in response to impacts thereon. Kamm explicitly discloses the upper wall 34 meeting the lower wall 36 at approximately a right angle and fails to provide any motivation whatsoever to orient the walls 34 and 36 so that each wall defines an angle of substantially 35° with an axis that bisects the channel 32. The features recited in claim 27 can only be found in Kamm using impermissible hindsight made possible from the teachings of the claimed invention itself. Accordingly, independent claim 27 is

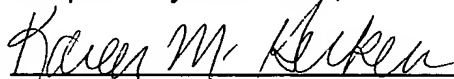
submitted to be clearly patentable over Kamm and should be allowed along with its dependent claims 28, 29 and 31 which were also improperly rejected as being unpatentable over Kamm.

Claim 30 and 32 depend from independent claim 27 but were withdrawn from consideration by the Examiner. Since independent claim 27 should be allowable, dependent claims 30 and 32 should be allowable therewith.

Independent claim 1 stands rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,696,155 in view of Kamm. The double patenting rejection is submitted to be overcome with the terminal disclaimer concurrently filed herewith along with the requisite fee.

In light of the foregoing, the subject patent application is submitted to be in condition for allowance with claims 1-18 and 26-32. Action in conformance therewith is courteously solicited. Should any issues in the subject patent application remain unresolved, the Examiner is encouraged to contact the undersigned attorney.

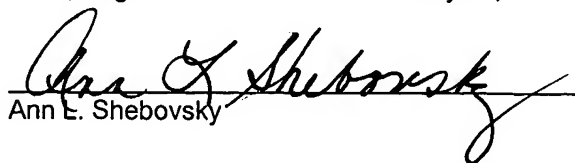
Respectfully submitted,



Karen M. Gerken
Registration No. 31,161

EPSTEIN & GERKEN
1901 Research Boulevard, Suite 340
Rockville, Maryland 20850
(301) 610-7634

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Ann E. Shebovsky